

**In the Claims:**

1. **(Currently Amended)** A system for retrieving data from a database using a data management system, comprising:

a change retrieval engine coupled to the data management system and operable to:

determine that data in the database managed by the data management system has been changed;

receive information from the data management system identifying a particular business object with which the changed data is associated, a main table including data associated with the particular business object, and the received information including one or more key values identifying a plurality of instances of the particular business object, each of the plurality of instances of the particular business object being associated with at least a portion of the changed data;

access a data model specifying, for the particular business object each of a plurality of business objects maintained by the data management system, the plurality of business objects including the particular business object, references to one or more plural tables associated with the particular business object and managed by the data management system that include data related to one or more the plural instances of the particular that business object, the data related to each instance being identifiable in one or more of the plural tables by the key value identifying that instance;

wherein the plural instances of the particular business object represent different subsets of data related to the particular business object such that the data related to different ones of the plural instances is at least partially different data;

identify, according to the data model and the information received from the data management system, the plural tables associated with the specified for the plurality of instances of the particular business object that are identified by the one or more key values received from the data management system to identify data to be retrieved from the database using the data management system according to the received information;

for each of the plural instances of the particular business object, use the key value associated with that instance to identify, from the plural tables associated with the particular business object, the data in one or more of the plural tables that is related to that instance;

request from the data management system ~~the~~ data to be retrieved included in the plural tables identified according to the data model, the requested data to be retrieved including at least a portion of the data identified as related to the plural instances of the particular business object; and

receive the data from the data management system;

~~store the data in a data log; and~~

~~communicate a transfer command; and~~

~~a change transfer engine coupled to the change retrieval engine and operable to:~~

~~receive the transfer command;~~

~~obtain the data from the data log; and~~

~~communicate the data to an external system distinct from the data management system.~~

2. (Currently Amended) The system of Claim 1 ~~44~~, wherein:

the data management system comprises an enterprise resource planning (ERP) system; and

the external system comprises an external planning system.

3. (Original) The system of Claim 1, wherein the change retrieval engine is further operable to monitor the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

4. (Original) The system of Claim 1, wherein the change retrieval engine is further operable to receive a message from the data management system indicating that data managed by the data management system has been changed.

5. (Cancelled)

6. (Currently Amended) The system of Claim 1, wherein the particular business ~~objects are~~ object is identified in the data model by a business object name.

7. **(Currently Amended)** The system of Claim 1, wherein the particular business ~~objects are~~ object is identified in the data model by a name of a the main table of data associated with the particular business object in the data management system.

8. (Cancelled)

9. **Cancelled.**

10. (Original) The system of Claim 1, wherein the change retrieval engine is further operable to:

apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data; and

request from the data management system data from the fields indicated as containing desired data.

11. (Original) The system of Claim 1, wherein the change retrieval engine is further operable to:

apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables; and

request from the data management system the desired data.

12. (Cancelled)

13. **(Currently Amended)** The system of Claim ~~1~~ 44, wherein the change retrieval engine is further operable to:

access a distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided; and

store the data received from the data management system in the data log according to the serialization groups.

14. (Original) The system of Claim 13, wherein the change retrieval engine is further operable to:

access the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and

store the destination information for the one or more external systems with the serialization groups in the data log.

15. (Original) The system of Claim 14, wherein the change transfer engine is further operable to communicate the serialization groups to the external systems identified by the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

16. (Original) The system of Claim 13, wherein the change transfer engine is further operable to:

access the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and

communicate the serialization groups to the appropriate external systems using the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

17. **(Currently Amended)** The system of Claim ~~1~~ 44, wherein the change transfer engine is further operable to:

create an error log if data is not communicated to an external system;

receive a second transfer command indicating additional data has been stored in the data log; and

communicate the data associated with the error to the external system before communicating the additional data to the external system.

18. **(Currently Amended)** A method for retrieving data from a database using a data management system, comprising:

determining that data in the database managed by the data management system has been changed;

receiving information from the data management system identifying a particular business object with which the changed data is associated, a main table including data associated with the particular business object, and the received information including one or more key values identifying a plurality of instances of the particular business object, each of the plurality of instances of the particular business object being associated with at least a portion of the changed data;

accessing a data model specifying, for the particular business object each of a plurality of business objects maintained by the data management system, the plurality of business objects including the particular business object, references to one or more plural tables associated with the particular business object and managed by the data management system that include data related to one or more the plural instances of the particular that business object, the data related to each instance being identifiable in one or more of the plural tables by the key value identifying that instance;

wherein the plural instances of the particular business object represent different subsets of data related to the particular business object such that the data related to different ones of the plural instances is at least partially different data;

identifying, according to the data model and the information received from the data management system, the plural tables associated with the specified for the plurality of instances of the particular business object that are identified by the one or more key values received from the data management system to identify data to be retrieved from the database using the data management system according to the received information;

for each of the plural instances of the particular business object, using the key value associated with that instance to identify, from the plural tables associated with the particular business object, the data in one or more of the plural tables that is related to that instance;

requesting from the data management system ~~the~~ data to be retrieved included in the plural tables identified according to the data model, the requested data to be retrieved

**including at least a portion of the data identified as related to the plural instances of the particular business object;** and

communicating the data to an external system distinct from the data management system.

19. (Original) The method of Claim 18, wherein:  
the data management system comprises an enterprise resource planning (ERP) system; and  
the external system comprises an external planning system.

20. (Original) The method of Claim 18, wherein determining that data managed by the data management system has been changed comprises monitoring the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

21. (Original) The method of Claim 18, wherein determining that data managed by the data management system has been changed comprises receiving a message from the data management system indicating that data managed by the data management system has been changed.

22. (Cancelled)

23. (Currently Amended) The method of Claim 18, wherein the **particular** business ~~objects are~~ **object is** identified in the data model by a business object name.

24. (Currently Amended) The method of Claim 18, wherein the **particular** business ~~objects are~~ **object is** identified in the data model by a name of a main table of data associated with the business object in the data management system.

25. (Cancelled)

26. Cancelled.

27. (Original) The method of Claim 18, wherein the method further comprises applying field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables from which to request data from the data management system.

28. (Original) The method of Claim 18, wherein the method further comprises applying field filters to the tables identified by the data model, the field filters indicating the relevant data in the tables to be requested from the data management system.

29. (Cancelled)

30. (Original) The method of Claim 18, further comprising:  
accessing a distribution model to determine one or more serialization groups into which the data identified by the data model is to be divided;  
accessing the distribution model to determine destination information for one or more external systems to which the data in the serialization groups is to be communicated; and  
communicating the serialization groups to the external systems identified by the destination information, the data in each serialization group communicated to the associated external system in an order that the data in the database was changed.

31. (Original) The method of Claim 18, further comprising:  
creating an error log if data is not communicated to an external system; and  
communicating the data associated with the error to the external system before communicating additional data received from the data management system to the external system.

32. **(Currently Amended)** A system for retrieving data from a database using a data management system, comprising:

a database operable to store data;

a data management system operable to access and change the data in the database; and

a data access interface system operable to:

receive information from the data management system identifying a particular business object with which the changed data is associated, a main table including data associated with the particular business object, and the received information including one or more key values identifying a plurality of instances of the particular business object, each of the plurality of instances of the particular business object being associated with at least a portion of the changed data;

access a data model specifying, for the particular business object ~~each of a plurality of business objects maintained by the data management system, the plurality of business objects including the particular business object~~, references to ~~one or more~~ plural tables associated with the particular business object and managed by the data management system that include data related to ~~one or more~~ the plural instances of the particular ~~that~~ business object, the data related to each instance being identifiable in one or more of the plural tables by the key value identifying that instance;

wherein the plural instances of the particular business object represent different subsets of data related to the particular business object such that the data related to different ones of the plural instances is at least partially different data;

identify, according to the data model and the information received from the data management system, the plural tables associated with the specified for the plurality of instances of the particular business object ~~that are identified by the one or more key values received from the data management system to identify data to be retrieved from the database using the data management system according to the received information;~~

for each of the plural instances of the particular business object, use the key value associated with that instance to identify, from the plural tables associated with the particular business object, the data in one or more of the plural tables that is related to that instance;



request from the data management system ~~the~~ data to be retrieved included in the plural tables identified according to the data model, the requested data to be retrieved including at least a portion of the data identified as related to the plural instances of the particular business object; and

communicate the data to an external system distinct from the data management system.

33. **(Currently Amended)** Software for retrieving data from a database using a data management system, the software being embodied in computer-readable media and when executed operable to:

determine that data in the database managed by the data management system has been changed;

receive information from the data management system identifying a particular business object with which the changed data is associated, a main table including data associated with the particular business object, and the received information including one or more key values identifying a plurality of instances of the particular business object, each of the plurality of instances of the particular business object being associated with at least a portion of the changed data;

access a data model specifying, for the particular business object each of a plurality of business objects maintained by the data management system, the plurality of business objects including the particular business object, references to one or more plural tables associated with the particular business object and managed by the data management system that include data related to one or more the plural instances of the particular that business object, the data related to each instance being identifiable in one or more of the plural tables by the key value identifying that instance;

wherein the plural instances of the particular business object represent different subsets of data related to the particular business object such that the data related to different ones of the plural instances is at least partially different data;

identify, according to the data model and the information received from the data management system, the plural tables associated with the specified for the plurality of instances of the particular business object that are identified by the one or more key values received from the data management system to identify data to be retrieved from the database using the data management system according to the received information;

for each of the plural instances of the particular business object, use the key value associated with that instance to identify, from the plural tables associated with the particular business object, the data in one or more of the plural tables that is related to that instance;

request from the data management system ~~the~~ data to be retrieved included in the plural tables identified according to the data model, the requested data to be retrieved

**including at least a portion of the data identified as related to the plural instances of the particular business object;**

receive the requested data from the data management system; and  
communicate the received data to an external system distinct from the data management system.

34. (Original) The software of Claim 33, further operable to monitor the data management system to determine when a change document is created, the change document indicating that data managed by the data management system has been changed.

35. (Original) The software of Claims 33, further operable to receive a message from the data management system indicating that data managed by the data management system has been changed.

36. (Currently Amended) The software of Claims 33, wherein the **particular** business ~~objects are~~ **object is** identified in the data model by a name of a main table of data associated with the business object in the data management system.

37. (Cancelled)

38. **Cancelled.**

39. (Original) The software of Claims 33, further operable to:  
apply field reductions to the tables identified according to the data model, the field reductions indicating one or more fields of the tables containing desired data; and  
request from the data management system data from the fields indicated as containing desired data.

40. (Original) The software of Claims 33, further operable to:  
apply field filters to the tables identified according to the data model, the field filters indicating the desired data in the tables; and  
request from the data management system the desired data.

41. (Original) The software of Claims 33, further operable to:  
access a distribution model to determine one or more serialization groups into which  
the data identified by the data model is to be divided; and  
store the data received from the data management system in the data log according to  
the serialization groups.

42. (Original) The software of Claims 33, further operable to:  
create an error log if data is not communicated to an external system;  
receive a second transfer command indicating additional data has been stored in the  
data log; and  
communicate the data associated with the error to the external system before  
communicating the additional data to the external system.

43. **(Currently Amended)** A system for retrieving data from a database using a data management system, comprising:

means for determining that data in the database managed by the data management system has been changed;

means for receiving information from the data management system identifying a particular business object with which the changed data is associated, a main table including data associated with the particular business object, and ~~the received information including one or more~~ key values identifying a plurality of instances of the particular business object, each of the plurality of instances of the particular business object being associated with at least a portion of the changed data;

means for accessing a data model specifying, for the particular business object each of a plurality of business objects maintained by the data management system, the plurality of business objects including the particular business object, references to ~~one or more~~ plural tables associated with the particular business object and managed by the data management system that include data related to ~~one or more~~ the plural instances of the particular ~~that~~ business object, the data related to each instance being identifiable in one or more of the plural tables by the key value identifying that instance;

wherein the plural instances of the particular business object represent different subsets of data related to the particular business object such that the data related to different ones of the plural instances is at least partially different data;

means for identifying, according to the data model and the information received from the data management system, the plural tables associated with the ~~specified for the plurality of instances of the~~ particular business object ~~that are identified by the one or more key values received from the data management system to identify data to be retrieved from the database using the data management system according to the received information;~~

for each of the plural instances of the particular business object, using the key value associated with that instance to identify, from the plural tables associated with the particular business object, the data in one or more of the plural tables that is related to that instance;

means for requesting from the data management system ~~the~~ data to be retrieved included in the plural tables identified according to the data model, the requested data to be

**retrieved including at least a portion of the data identified as related to the plural instances of the particular business object; and**

means for communicating the data to an external system distinct from the data management system.

44. (New) The system of Claim 1, wherein:

the change retrieval engine is further operable to:

store the data received from the data management system in a data log; and

communicate a transfer command; and

the system further comprises a change transfer engine coupled to the change retrieval engine and operable to:

receive the transfer command;

obtain the data from the data log; and

communicate the data to an external system distinct from the data management system.